UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R070XB053NM

Site Name: Clayey

Precipitation or Climate Zone: 13 to 16 inches

Phase:

PHYSIOGRAPHIC FEATURES

Narrative:

This site is on nearly level to undulating uplands and alluvial fans. The slopes range from 0 to 5 percent. The site is between elevations of approximately 3,800 to 5,500 feet above sea level. Exposure varies and is insignificant. Deep gullies may occur.

Land Form:

1. Plain
2. Alluvial fan
3.

Aspect:

1. N/A
2.
3.

	Minimum	Maximum
Elevation (feet)	3,800	5,500
Slope (percent)	0	5
Water Table Depth (inches)	N/A	N/A

Flooding:	**Minimum**	**Maximum**
Frequency	Rare	Occasional
Duration	Very Brief	Brief

Ponding:	**Minimum**	**Maximum**
Depth (inches)	N/A	N/A
Frequency	N/A	N/A
Duration	N/A	N/A

Runoff Class:

Negligible to medium.

CLIMATIC FEATURES

Narrative:

The climate of this area can be classified as "semi-arid continental".

Annual average precipitation ranges from 13 to 16 inches. About seventy eight percent of the moisture usually falls during the six-month period of May through October. Most of this summer precipitation falls in the form of brief and heavy afternoon and evening thunderstorms. Hail may accompany the more severe summer storms. In the winter, there is normally only one day a month when as much as one-tenth inch of moisture falls, usually in the form of snow. Snow seldom lies on the ground for more than a few days.

Temperatures are characterized by a distinct seasonal change and large annual and diurnal temperature ranges. Summers are moderately warm. Maximum temperature average above 90 degrees F from July to August and an average summer includes about 80 days with high readings exceeding 90 degrees F and 10 days with readings above 100 degrees F. Temperatures usually fall rapidly after sundown and low of 60 degrees F on most summer nights. Winters are mild, sunny and dry. Daytime shade temperatures in midwinter usually rise to the 50's. However, freezing temperatures normally occur at night from mid-November to mid-March.

The freeze-free season ranges from 190 to 197 days. Dates of the last freeze are April 11th to April 17th and the first freeze varies from October 20th to October 25th.

Both temperature and rainfall distribution favor warm-season, perennial plant communities in the area. However, sufficient late winter and early spring moisture allows a cool-season species to occupy a minor component within the plant community

Climate data was obtained from http://www.wrcc.sage.dri.edu/summary/climsmnm.html web site using 50% probability for freeze-free and frost-free seasons using 28.5 degrees F and 32.5 degrees F respectively.

	Minimum	Maximum
Frost-free period (days):	164	196
Freeze-free period (days):	190	218
Mean annual precipitation (inches):	13	16

Monthly moisture (inches) and temperature (^{0}F) distribution:

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	0.23	0.46	21.6	57.3
February	0.30	0.44	24.0	59.2
March	0.46	0.65	29.1	68.0
April	0.36	0.92	36.3	78.3
May	0.42	1.68	45.7	82.6
June	1.20	1.86	52.2	91.2
July	2.03	2.73	59.1	92.9
August	2.09	2.75	58.1	91.0
September	1.65	1.92	51.1	84.8
October	1.23	1.93	40.1	74.7
November	0.46	0.88	28.9	63.0
December	0.37	0.62	22.1	54.6

Climate Stations:

					Period		
Station ID	290205	Location	Alamogordo Dam, NM	From:	1972	To:	2000
Station ID	293292	Location	Fort Sumner, NM	From:	01/01/14	To:	2000
Station ID	297254	Location	Ramon 8SW, NM	From:	03/04/57	To:	122/31/01
Station ID	298596	Location	Sumner Lake. NM	From:	01/0121	To:	12/31/01
Station ID	299851	Location	Yeso, NM	From:	01/01/48	To:	12/31/01

INFLUENCING WATER FEATURES

Narrative:

This site is not influenced by water from a wetland or stream.

Wetland description:

System	Subsystem	Class
N/A		

If Riverine Wetland System enter Rosgen Stream Type:

N/A

REPRESENTATIVE SOIL FEATURES

Narrative:

These are moderately deep to deep, well-drained soils. The surface layers are clay loam or clay. The subsoil and substratum are silty clay loam, clay loam or clay. Surface runoff is medium. Permeability is slow and available water-holding capacity is high. The infiltration rate is slow. These soils disperse easily when soils are denuded of vegetation, which decreases the already slow infiltration rate. Effective rooting depth is 40 to 60 inches or more.

Parent Material Kind: Alluvium
Parent Material Origin: Mixed

Surface Texture:

1. Clay loam
2. Loam
3. Silty clay loam

Surface Texture Modifier:

1. N/A
2.
3.

Subsurface Texture Group: Clayey
Surface Fragments <=3" (% Cover): N/A
Surface Fragments >3" (% Cover): N/A

Subsurface Fragments <=3" (%Volume): 15 to 35
Subsurface Fragments >=3" (%Volume): N/A

	Minimum	Maximum
Drainage Class:	Well	Well
Permeability Class:	Impermeable	Moderately slow
Depth (inches):	20	>72
Electrical Conductivity (mmhos/cm):	0.00	8.00
Sodium Absorption Ratio:	0.00	4.00
Soil Reaction (1:1 Water):	6.6	9.0
Soil Reaction (0.1M CaCl2):	N/A	N/A
Available Water Capacity (inches):	9	12
Calcium Carbonate Equivalent (percent):	N/A	N/A

PLANT COMMUNITIES

Ecological Dynamics of the Site:

Plant Communities and Transitional Pathways (diagram)

Plant Community Name: Historic Climax Plant Community

Plant Community Sequence Number: 1 **Narrative Label**: HCPC

Plant Community Narrative: Historic Climax Plant Community
This site is a warm-season grassland dotted with an occasional shrub. Mid-grasses and short grasses are evenly distributed. Shrubs and half-shrubs are sparsely scattered. Perennial and annual forbs make a minor component of the plant community.

Canopy Cover:	
Trees	0
Shrubs and half shrubs	5 %
Ground Cover (Aveage Percent of Surface Area).	
Grasses & Forbs	35
Bare ground	30
Surface gravel	0
Surface cobble and stone	0
Litter (percent)	30
Litter (average depth in cm.)	3

Plant Community Annual Production (by plant type):

Annual Production (lbs/ac)

Plant Type	Low	RV	High
Grass/Grasslike	400	800	1,200
Forb	50	100	150
Tree/Shrub/Vine	50	100	150
Lichen			
Moss			
Microbiotic Crusts			
Total	500	1,000	1,500

Plant Community Composition and Group Annual Production:

Plant Type - Grass/Grasslike

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
1	BOGR2	Blue Grama	280 – 300	280 – 300
2	SPAI	Alkali Sacaton	180 – 200	180 – 200
3	PLMU3 PLJA	Tobosa Galleta	180 – 200	180 – 200
4	BOCU	Sideoats Grama	50 – 70	50 – 70
5	BOER4	Black Grama	50 – 70	50 – 70
6	BUDA	Buffalograss	30 – 50	30 – 50
7	MUTO2	Ring Muhly	10 – 30	10 – 30
8	MURI MURE	Mat Muhly Creeping Muhly	20 – 40	20 – 40
9	SCBR2	Burrograss	10 – 30	10 – 30
10	PAOB	Vine-mesquite	20 – 40	20 – 40
11	PASM	Western Wheatgrass	0 – 30	0 – 30

Plant Type - Forb

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
12	SOEL SPHAE VEPO4 HYOD CINE 2FP	Silverleaf Nightshade Globemallow Verbena Bitterweed New Mexico Thistle Other Perennial Forbs	30 – 50	30 – 50
13	2FA	Other Annual Forbs	20 – 40	20 - 40

Plant Type – Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
14	ATCA2	Fourwing Saltbush	20 – 40	20 – 40
15	OPSP2	Cholla Cactus	0 – 30	0 – 30
16	GUSA2	Broom Snakeweed	10 – 30	10 – 30
17	KRLA2	Winterfat	10 – 30	10 – 30
18	OPPO	Plains Pricklypear Cactus	10 – 30	10 - 30

Plant Type - Lichen

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Moss

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Microbiotic Crusts

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Growth Curves

Growth Curve ID 4003NM

Growth Curve Name: HCPC

Growth Curve Description: Short and mid-grasses warm-season grassland with minor components of forbs and shrubs.

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0	0	3	5	10	10	25	30	12	5	0	0

ECOLOGICAL SITE INTERPRETATIONS

Animal Community:

Habitat for Wildlife:

This site provides habitats, which support a resident animal community that is characterized by pronghorn antelope, black-tailed jackrabbit, thirteen lined ground squirrel, banner-tailed kangaroo rat, meadowlark, woodhouse toad and coachwhip.

Swallows nest in cavities located in the nearby vertical walls of deep, active gullies. Killdeer will nest in areas bare of vegetation.

Hydrology Functions:

The runoff curve numbers are determined by field investigations using hydrologic cover conditions and hydrologic soil groups.

Hydrologic Interpretations

Soil Series	Hydrologic Group
Hassell	C
Montoya	B, D
Playa	D
Quay	C
San Jon	D
San Jose	B, C
Tucumcari	B

Recreational Uses:

This site has limited recreation potential. Suitability for camping, hiking and picnicking is fair. Hunting for antelope, rabbits and upland game birds is fair. The site has fair aesthetic appeal due to the "wide open spaces" typical of the area.

Wood Products:

This site produces no wood products.

Other Products:

This site can be grazed any season of the year by all livestock, generally without regard to class of animal. It is better suited to cattle due to the coarseness of the forage produced by alkali sacaton. To better utilize alkali sacaton, grazing should be intensified before plants mature. Yearling steers utilize alkali sacaton early in the summer when it is green and tender. Continuous yearlong grazing or continual grazing during the period from April through October by cattle will result in a plant community dominated by tobosa or galleta, ring muhly, burrograss, broom snakeweed, pricklypear cactus and cholla cactus. Cholla cactus generally increases faster if site is grazed by sheep. Continuous heavy grazing pressure will result in a loss of vegetative cover causing large areas of denuded soil resulting in accelerated erosion and the productivity of the site is greatly reduced. A system of deferred grazing, which varies the season of grazing and rest in pastures during successive year's results in a healthy well-balanced plant community. Winter rest will benefit species such as fourwing saltbush and winterfat. Winter rest will reduce the heavy utilization of black grama also. Spring rest will allow western wheatgrass and cool-season forbs to grow and reproduce, also allowing alkali sacaton sufficient time to green up. Summer rest will benefit blue grama, alkali sacaton, sideoats grama and vine-mesquite. Ninety-five percent of the annual yield is from species that furnish forage for grazing animals.

Other Information:

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month

Similarity Index	Ac/AUM
100 - 76	2.3 – 4.4
75 – 51	2.6 – 5.1
50 – 26	3.2 – 10.0
25 – 0	10.0+

Plant Part	Code	Species Preference	Code
Stems	S	None Selected	NS
Leaves	L	Preferred	P
Flowers	F	Desirable	D
Fruits/Seeds	F/S	Undesirable	U
Entire Plant	EP	Not Consumed	NC
Underground Parts	UP	Emergency	E
		Toxic	T

Plant Preference by Animal Kind:

Animal Kind: Livestock
Animal Type: Cattle

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
Black Grama	Bouteloua eriopoda	EP	P	P	P	D	D	D	D	D	D	D	P	P
Vine-mesquite	Panicum obtusum	EP	D	D	D	D	D	D	D	D	D	D	D	D
Western Wheatgrass	Pascopyrum smithii	EP	D	D	P	P	P	D	D	D	D	D	D	D
Winterfat	Krascheninnikovia lanata	L/S	D	D	P	P	P	P	P	P	D	D	D	D
Fourwing Saltbush	Atriplex canescens	L/S	P	P	P	P	P	D	D	D	D	D	D	P

Animal Kind: Livestock
Animal Type: Horse

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Blue Grama	Bouteloua gracilis	EP	D	D	D	D	P	P	P	P	P	D	D	D
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
Black Grama	Bouteloua eriopoda	EP	P	P	P	D	D	D	D	D	D	D	P	P
Vine-mesquite	Panicum obtusum	EP	D	D	D	D	D	D	D	D	D	D	D	D
Burrograss	Scleropogon brevifolius	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S

Animal Kind: Livestock
Animal Type: Sheep

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Vine-mesquite	Panicum obtusum	EP	D	D	D	D	D	D	D	D	D	D	D	D

Animal Kind: Wildlife
Animal Type: Antelope

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Winterfat	Krascheninnikovia lanata	L/S	D	D	D	D	D	D	D	D	D	D	D	D

SUPPORTING INFORMATION

Associated sites:

Site Name	Site ID	Site Narrative

Similar sites:

Site Name	Site ID	Site Narrative

State Correlation:

This site has been correlated with the following sites: _____

Inventory Data References:

Data Source	# of Records	Sample Period	State	County

Type Locality:

State: **New Mexico**

County: **De Baca, Guadalupe, Harding, Quay, San Miguel**

Latitude: _____

Longitude: _____

Township: _____

Range: _____

Section: _____

Is the type locality sensitive? **Yes** ☐ **No** ☐

General Legal Description: _____

Relationship to Other Established Classifications:

Other References:

Data collection for this site was done in conjunction with the progressive soil surveys within the Pecos-Canadian Plains and Valleys 70 Major Land Resource Area of New Mexico. This site has been mapped and correlated with soils in the following soil surveys: San Miguel, Quay, Guadalupe, De Baca and Chaves

Characteristic Soils Are:	
Hassell, Montoya, Playa, Quay, San Jon	San Jose, Tucumcari
Other Soils included are:	

Site Description Approval:

Author	Date	Approval	Date
Don Sylvester	07/26/78	Don Sylvester	07/26/78

Site Description Revision:

Author	Date	Approval	Date
Elizabeth Wright	11/07/02	George Chavez	2/11/03